

Claims

- 5 1. A key cap for a mobile device, providing a visual trace of a character perceivable under back illumination, wherein the key cap defines a plurality of holes to provide spot light outlets adapted to collectively define the trace.
- 10 2. A key cap according to claim 1, wherein the key cap has been made of an opaque material such as a metal.
- 15 3. A key cap according to claim 1 or 2, wherein the holes have a diameter over 0.02 mm.
- 20 4. A key cap according to any of the preceding claims, wherein the holes have a diameter under 0.3 mm.
- 25 5. A key cap according to any of the preceding claims, further comprising a groove further defining the trace of the character such that the trace is visible in daylight.
- 30 6. A key cap according to any of the preceding claims, wherein the holes have an enlarged mouth to facilitate recognition of the character in the daylight.
7. A key cap according to any of the preceding claims, wherein the holes are blind holes and the key cap is at least partly transparent in order to pass light through the holes so that the legend can be perceived in the dark.
8. A key cap according to any of the preceding claims, wherein the holes have been drilled, punched, etched, or cut.
9. A key cap according to any of the preceding claims, wherein the cross-section of the holes is substantially non-directional, particularly substantially circular.

10. A key cap according to any of the preceding claims, wherein the holes define the trace by defining a light passing track along the trace or by forming a light passing area around the trace such which itself is less light passing than its surrounding area.

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11. A key cap according to any of the preceding claims, wherein the holes are substantially unidirectional.

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12. A key cap according to any of the preceding claims, wherein the key cap defines at least two substantially parallel rows or strings of holes such that they will convey light to different angles substantially consistently.

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13. A key cap according to any of the preceding claims, wherein the key cap defines a plurality of substantially parallel rows of holes.

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14. A key cap according to any of the preceding claims, wherein the key cap defines a plurality of holes in a dithered alignment so as to provide an impression of smooth lines particularly at curves.

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15. The key cap according to any of the preceding claims, further comprising a transparent dust seal to restrain the entry of dust to the interior of the key or the mobile device.

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16. A key cap according to any of the preceding claims, wherein the holes have been blocked with a transparent material such that a back light passing through the holes will refract diffusely so as to increase the angle of visibility of such light.

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17. A key cap according to claim 16, wherein the transparent material is translucent resin.

18. A key cap according to any of the preceding claims, wherein the key cap further comprises a set of protruding points providing writing for the blind.

19. A switch arrangement comprising an electrical switch and a key cap according to any of the preceding claims.

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20. A switch arrangement according to claim 19, further comprising a light guide for conducting light to a user via the hole.

10 21. A mobile communication device comprising a key cap comprising a switch arrangement according to claim 19 or 20.

15 22. A method of manufacturing a key cap for a mobile communication device, comprising drilling to a key cap a plurality of holes for providing spot light outlets collectively defining a visual trace of a character under back illumination.

23. A method according to claim 22, further comprising engraving the key cap to make the trace easy to see in the day light.

20 24. A method according to claim 22 or 23, wherein the engraving comprises the sub-step of routing the surface of the key cap or drilling blind holes having a diameter substantially larger than that of the drilled through holes.

25 25. A method according to any one of claims 22 to 24, further comprising blocking the holes with a transparent material to resist the holes being contaminated with particles.